# UNITED STATES PATENT AND TRADEMARK OFFICE

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/976,098 | 10/15/2001 | Hiroaki Yoshino | 35.G2919 | 9468 |

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| EXAMINER |
|---|
| BRANT, DMITRY |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2655 | |

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on <u>09 October 2001</u>.

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.

⠀⠀4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All    b)☐ Some *   c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/07/02</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

# DETAILED ACTION

## *Claim Rejections - 35 USC § 102*

1.     The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.     Claims 1-3, 8-10, 15-18, are rejected under 35 U.S.C. 102(e) as being

anticipated by Keiller (6,560,575).

The table below summarizes limitations of claims 1-3 and parts of Keiller that

read on these limitations.

| Claim# | Limitations | Keiller |
|---|---|---|
| 1, 8, 15, 17 | A method for recording speech, to be used as learning data in speech recognition processing, comprising: <br><br> a recognition step of recognizing input speech used as the learning data so as to obtain a recognized character string | Input is taken as two training examples: one a new example and one an already existing example (Col. 15, lines 25-35) |
| | a determination step of comparing a pattern of the recognized character string with a pattern of a recording character string so as to obtain a matching rate there between, and of determining whether said matching rate exceeds a predetermined level | System checks whether training examples are consistent (Col. 15, lines 28-30) by computing the consistency scores (Col. 15, lines 53-65) and comparing the result against some threshold. (95%, Col. 16, lines 6-8) |

| | | |
|---|---|---|
| | and a recording step of recording the input speech as the learning data when it is determined in said determination step that said matching rate exceeds the predetermined level. | If results are consistent, they are used to generate a model for word being trained (Col. 15, lines 27-30), so inherently, the generated model is stored (recorded) to some memory means (see also Col. 16, lines 12-15). |
| 2, 9 | A method according to claim 8, further comprising a re-input instruction step of issuing an instruction to input speech once again when it is determined in said determination step that said matching rate does not exceed the predetermined level. | If words do not match, the system requires a new example (Col. 15, lines 32-25) |
| 3, 10 | A method according to claim 8, wherein said determination step determines said matching rate by performing DP matching between the recognized character string pattern and the recording character string pattern. | Dynamic programming is used to determine whether the inputted words are consistent with each other (Col.14, lines 48-55 and Col. 15, lines 54-65) |
| 16, 18 | A method for recording speech, to be used as learning data in speech recognition processing, comprising:<br><br>a learning recognition step of recognizing input speech used as the learning data so as to obtain a recognized character string | Input is taken as two training examples: one a new example and one an already existing example (Col. 15, lines 25-35) |
| | a determination step of comparing a pattern of the recognized character string with a pattern of a recording character string so as to obtain a matching rate there between, and of determining whether said matching rate exceeds a predetermined level | System checks whether training examples are consistent (Col. 15, lines 28-30) by computing the consistency scores (Col. 15, lines 53-65) and comparing the result against some threshold. (95%, Col. 16, lines 6-8) |
| | and a recording step of recording the input speech as the learning data when it is determined in said determination step that said matching rate exceeds the predetermined level. | If results are consistent, they are used to generate a model for word being trained (Col. 15, lines 27-30), so inherently, the generated model is stored (recorded) to some |

| | a learning step of performing learning on a speech model by using the input speech recorded in said recording step and, | memory means (see also Col. 16, lines 12-15). |
|---|---|---|
| | | The process described above provides general training of the model (Col. 16, lines 14-20) |
| | a recognition step of recognizing unknown input speech by using the speech model learned in said learning step | Training data is used for general recognition (Col. 16, lines 14-20) |

## Claim Rejections - 35 USC § 103

3.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.      Claims 4-7, 11-14, are rejected under 35 U.S.C. 103(a) as being unpatentable

over Keiller in view of Ballard et al. (6,195,637).


As per claims 11-14, Keiller does not disclose a "presentation step [that] presents

the unmatched portion" along with reference word, and highlighting that portion either

using by changing background (claim 13) or making it blink (claim 14).  Keiller, however,

discloses the three different types of possible errors that lead to mischaracterization of

word sections:  wrong word (substitute error), part of the training word (missing error),

and extra noise (insertion error), as required for claim 12.  In addition, the examiner

takes the official notice that recognition of words by phonetic units is extremely well-known in the art, so that it would have been obvious to one skilled in the art to identify only the specific word units (sections) exhibiting the incorrect behavior disclosed by Keiller.

Ballard et al. teach displaying misrecognized words along with suggested correction (in this case, the reference word, for example) and highlighting/underlining the words marked for correction (Col. 3, lines 32-35). The examiner also takes the official notice that blinking is a well-known technique of emphasizing text, along with highlighting, underlining, changing fonts, etc.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller as taught by Ballard et al. to show the sections of the mischaracterized words along with the reference words (which would appear first in the suggestion list of Ballard et al.) and visually emphasize the sections described by Keiller in a manner taught by Ballard et al. in order to allow a user to immediately identify and correct the misunderstood words (Col. 1, lines 51-64)

## *Conclusion*

3.     The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US patents describing various speech recognition training and correction mechanisms:

6,611,802
6,006,183
6,092,043

6,711,536
6,263,308
6,064,959
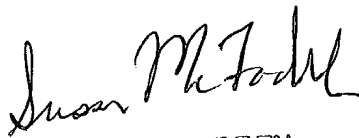6,370,503
5,950,160
5,909,667
6,785,650

4.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dmitry Brant whose telephone number is (703) 305-

8954.  The examiner can normally be reached on Mon. - Fri. (8:30am - 5pm).

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Talivaldis Ivars Smits can be reached on (703) 306-3011. The

fax phone number for the organization where this application or proceeding is assigned

is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to Tech Center 2600 receptionist whose telephone

number is (703) 305- 4700.

DB

9/13/04

SUSAN MCFADDEN
PRIMARY EXAMINER